PROFESSIONAL ENGINEER

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Trio of Student Engineers awarded

Chresten Knudsen, left, president of the San Bernardino Chapter of the American Association of Engineers presents certificates of merit to three students who show promise of becoming successful engineers. Left to right are Knudsen, David Brown, San Bernardino Valley College; Steve Miller, Chaffey college; Gene Kuykendall, Riverside College, and John R. Jahn, Riverside, chairman of the scholarship committee which selected the award winners. (Searle Photo)

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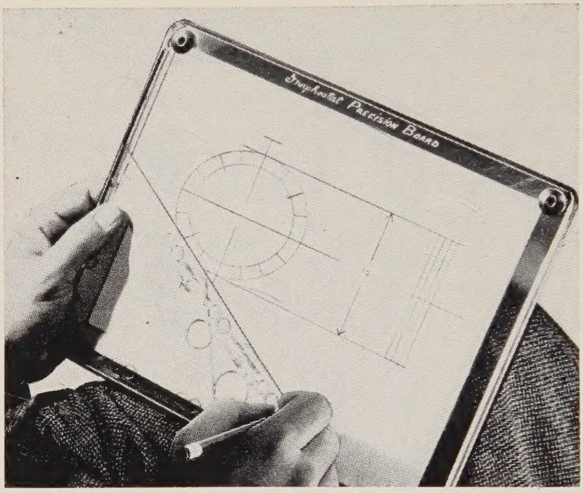

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M. E. McIVER, Editor

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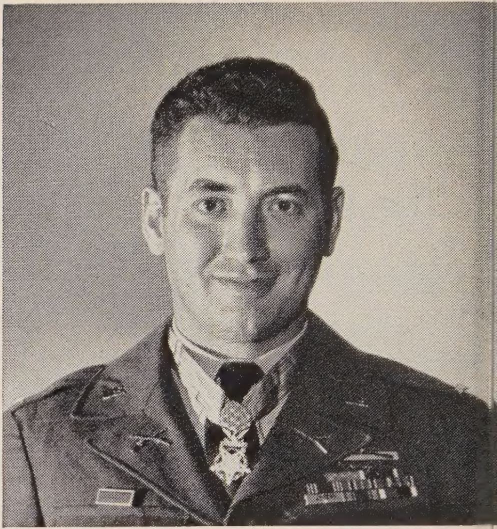

Lieutenant
Stanley T. Adams
Medal of Honor

ONE BITING-COLD FEBRUARY NIGHT, Lieutenant Adams was on a bitterly contested hill near Sesim-ni, Korea. Out of the dark earth some 150 Communist troops rose up. Ordering fixed bayonets, the lieutenant, with only 13 men, leaped up and charged furiously. He was knocked down by a bullet. Three hand grenades actually bounced off his body before exploding nearby. But when Adams and his squad were through, there were only 50 Communists left on the hill—and they were dead.

"Nobody likes to kill," says Stanley Adams. "Nobody likes war. But today the surest way to invite a war is to be weak. You and I know that twice in the last ten years Americans have let their guard down. And the Philippine and Korean graveyards are filled with men who paid the price for it.

"Please don't make that tragic mistake again. Remember that in the world today, *peace is only for the strong*. Help make your country and your armed services stronger still—by buying more . . . and more . . . and more United States Defense Bonds. Put *your* bond-power behind *our* firepower, *now*—and together we'll keep America at peace!"

★ ★ ★

Remember that when you're buying bonds for national defense, you're also building a personal reserve of cash savings. Remember, too, that if you don't save *regularly*, you generally don't save at all. So sign up today in the Payroll Savings Plan where you work, or the Bond-A-Month Plan where you bank. For your country's security, and your own, buy U. S. Defense Bonds now!

Peace is for the strong... Buy U. S. Defense Bonds now!

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The President's Message

DURING this year, it has been my privilege to represent American Association of Engineers at several significant meetings. With sincere pleasure, bore greetings from A.A.E. to the American Society of Mechanical Engiieers in its April 1955 meeting, one of a series celebrating the Society's 5th anniversary. And I was especially honored to represent the Association t a gathering of distinguished government officials, leading members of iany professional and business organizations, and outstanding members of he American Bar Association at that organization's "John Marshall Bicenennial Ceremonies" held in Independence Square, Philadelphia on August 4, 1955.

Deeply impressed by the ceremonies, I felt, as never before, an overvhelming sense of gratitude to the men who founded our nation and wrote nto the Bill of Rights safeguards for the privileges we enjoy of forming uch organizations as American Bar Association and of holding such gathrings. Here I could see a projection of legal terms, "freedom of speech", the right of people peaceably to assemble", and "to petition the governnent" in a sort of three-dimensional reality. Here, I thought, is democracy in ction, and also the greatest bulwark of the rights of individuals. Both are mbodied in these organizations formed not only to defend the rights of he individuals who constitute them, but to carry their concomitant civic bligations.

Even as I rejoiced that these things are true, and that I, a relatively bscure participant, had an opportunity to share in the John Marshall icentennial Ceremonies, I was somehow sad to think that I was only a ymbol of the great profession of engineering, not truly a representative— iot at least in the proud sense that every member of the American Bar ssociation on that platform could consider himself a representative of all nembers of his profession.

Engineering has no organization comparable in numbers and corresonding influence, authorized by a majority of members of the profession o speak for engineers. We have, instead almost a hundred national societies vhich speak out on public issues, each according to the consensus of a articular segment of the profession.

In recent years, in fact, the gulf between segments of the profession

has widened noticeably. *"Combustion"* magazine, issue of June, 195
stated the situation forcefully in an editorial entitled "Wanted: A Centripet
Professional Force." I quote a highly significant section of the editorial:

> Today the engineering profession might be compared to a rotating machine that is badly out of balance. The centrifugal forces of narrow specialization and the inertia of vested society interests have gotten out of hand. Engineers know what to do to bring the machine into balance. Somehow they must find and muster the strong and effective leadership that can create the centripetal forces out of which an effective unity or organization can grow.

Engineers knew what to do 40 years ago when they founded America
Association of Engineers, open to engineers in all stages of profession
development and in all branches, "to promote unity in the profession." I
pioneers initiated a tremendous centripetal drive that was slowed down
the very forces *Combustion* deplores. Sitting with representatives of th
many distinguished organizations honored by American Bar Association
this opportunity to participate in its great celebration, I was proud to repre
sent the Society that has done more than any other to demonstrate the ide
of unity, but I was at the same time sad that, acting in this capacity I wa
a symbol of a profession which has no single organization comparable
numbers and influence to the American Bar Association, which, wheneve
it speaks, voices the beliefs of a majority of members of the Bar through
out the nation.

P. J. Lucey
President,
American Association of Engineers

Huge U.S. Engineering Task for Spain

By Ray Freedman

ONE of the most ambitious and daring projects ever attempted by the United States, is taking place in Spain. Second in importance, perhaps, only to the *Armada,* it is a momentous undertaking. A mammoth construction job for *Uncle Sam*—the building of needed western defense facilities—the task is comparable to the Panama Canal.

In three more years, or less, and with infinite American assistance, it is calculated to make Spain a springboard for counter attack that can be held and used, even though the rest of Europe be overrun.

Saragossa is the current base of operations, although building is continuing at Torrejon (near Madrid), where major air bases for B-47 heavy bombers will be stationed. A similar project is underway at Moron (near Seville). The bases will be protected by a radar warning system constructed by the United States. A pipeline to bring fuel to the air fields will also be built. In addition, the U.S. Navy is currently grading a base at Rota—across the bay from Cadiz in Southern Spain—which will include a deep-water port for big ships, a breakwater, a pier for fueling and a carrier pier.

The carrier pier will enable planes to put ashore from aircraft carriers. From dockside they will be able to move down a taxi-way to an airstrip to be built nearby at Matogorda.

Fuel tanks at Rota will store oil and gasoline for air and navy needs. Powerful pumps will send jet fuel and aviation gas along the 485 miles of pipelines from Rota to Saragossa. It is up to American engineers to map and oversee the building of all, over as rough a terrain as is imaginable. The American Navy also plans fuel and munition facilities for its ships in the existing Spanish naval bases at Ferrol, Cartagena, Palma and possible Mahon.

The American aim is to set up three or more heavy bomber bases from which B-47's could, if the need arose, hit strategic targets in eastern Europe. Thus, the United States will acquire an adequate naval base in southern Europe, strategically located at the junction of the Atlantic and the Mediterranean.

Construction work at the Saragossa air strip is progressing at a gratifying pace, thanks to American engineers who are going all out in supervising the project. All is provided under terms of the 1953 joint defense agreement with Spain. Terms of the joint defense agreement call for an expenditure of 300-million dollars by the United States. To date Congress has authorized 130-million dollars. It is hoped to complete the program by 1959.

Earth-movers and graders, costing in the thousands, have been steadily at work on the present 10,000-foot-long main runway. Within 18 months B-47 bombers, Strategic Air Command fighters and interceptor planes will be using the airfield freely.

Until recently cement, iron, and steel have been a big problem. Spain has lacked the facilities and adequate resources to supply the huge needs. Recently, however, the United States has negotiated with Western (Bonn) Germany to supply 5-million dollars worth of cement, iron and steel. The United States will pay for these materials with German currency, received from the sale of fodder in West Germany, the economic ministry declared recently.

Construction work hasn't been an easy task. For example, the air base at Torrejon had to be virtually rebuilt. The runway was originally constructed for the 3-engine Junkers and Heinkels of the 1936 era—which most of the Spanish air force is still flying. The air strip was but 4,200 feet long. This meant extending the runway to 12,800 feet. A whole new drainage system had to be laid, and miles of new taxiways and parking aprons constructed. In addition, acres of hangers and shops had to be erected, not to mention an entire network of communication lines, a new overall lighting system, radar and control equipment. To date it has been a tough task.

In the 20-odd months since Spain and the United States signed their mutual defense assistance program, a team of U.S. Air Force Engineers and Navy specialist, headed by Gen. August W. Kissner has been hard at work in Madrid mapping programs to meet Spanish and American needs. Despite the obstacles, construction has been beginning to roll like a steamroller down Broadway. Spain has been cooperative to a marked degree.

In terms of earth, steel and concrete, there has been little in building projects to compare with it. The nearest approach, perhaps, was the memorable Panama Canal. Where that job, however, took literally years of blood, sweat and toil with primitive equipment, today's undertaking is being done in a fraction of the time it took engineers to cut through a mountain of rock and ore. More advanced equipment and engineering skill, of course, is the answer.

From a military standpoint the *overall project*—four gigantic airports, 550-mile jet fuel lines and storage depots, dispensaries, a hospital, living quarters, naval air station, and lesser structures—it ranks among the most important construction jobs since World War II. Both American engineers and Spanish construction workers are primed to perform yeoman labors if needs be. There is a common motive involved. It will afford the U.S. air force more "elbow room" in the event of unprovoked attack. It will allow for less than two hours air time from Russian forces in East Germany, and barely four hours from Russia proper.

American engineering ingenuity is helping Spain not only to overhaul its ancient building methods, but is giving a big lift to its precarious economic plight. While American engineers are drafting the entire project, Spanish construction crews, under native sub-contractors are doing the heavy manual work. This in itself spells an industrial revolution. The decision to put the work on Spanish shoulders reflected a desire not only to give the over-burdened American taxpayer a break, but also to afford Spain the chance to help stabilize its floundering basic economy—a fact she appreciates.

When completed the new bases will be primarily Spanish—and under Spanish control. No American troops will man them, but the U.S. Air Force and Navy will have free use of them—come war or peace. So much for American engineering ingenuity!

California Students Win Awards

San Bernardino Valley Chapter of the American Association of Engineers is to be commended for its deep and sincere interest in young engineers. It has been instrumental in forming several student chapters at the various Junior Colleges located in and near San Bernardino.

After establishing these A.A.E. groups they did not forget the boys, instead they have taken a personal interest in their welfare, inviting them to their chapter meetings and festivities. One of the older engineers who has taken a most active part in this particular activity has been and is John R. Jahn of Riverside.

An award of merit for student engineers was established by the chapter several years ago and on the cover of this issue we are pleased to publish a photograph of the winners of the 1955 awards for merit.

The awards were presented at the October dinner meeting of the San Bernardino Valley Chapter, A.A.E., held in the Derby House in Colton, to David Brown from San Bernardino Valley Chapter, Gene Kuykendall from Riverside College and Steve Miller from Chaffey College. The awards were in the form of certificates of merit and they were presented to the winners by Chresten Knudsen of Redlands, president of the San Bernardino Chapter. The certificates carry certification for employment, honorary membership in the professional chapter and cash awards.

"The three aspiring engineers," says the San Bernardino Sun, "were chosen on the basis of scholarship, leadership and 'their promise of becoming successful engineers.' They were selected from a field of approximately 100 engineering students at the three junior colleges."

Mr. Jahn was chairman of the scholarship committee that selected the three award winners. Guest speaker was Munson Down of the Metropolitan Water District, whose talk on the problems encountered the building of the MWD Canal from the Colorado River was illustrated with slides.

Engineers in South Africa

Peter Holz, Journalist, Johannesburg

SOUTH AFRICA is the continent's most highly industrialized country. Many indeed have called it the workshop of Africa. Beside large and widespread, highly mechanized gold, uranium, manganese iron, copper and coal mines, the government owned railways are toda crying out for qualified engineers. Private enterprise, too, is advertisin for mechanical, electrical, chemical, and civil engineers to fill vacancie in booming and forever expanding business concerns. Many of the positions advertised remain unfilled, for the simple reason that neithe government nor private enterprise is prepared to pay adequate salarie Here is a typical advertisement:

> **Vacancy: Engineer**
>
> **Applications are invited for the post of Engineer. Commencing salary £1,200 per annum. A house will be available at a nominal rental near the Company's offices near Klerksdorp. Government Certificate of Competency in Mechanical and Electrical work essential. University degree will be a recommendation. Sick benefit privileges will be available. The successful applicant will be required to take up his duties as soon as possible. Replies giving full particulars of qualifications, experience, age, marital status, etc., should be forwarded to. . . .**

Now 1,200 pounds is about $3,600 which is not very much money pe year in the U.S.A. It is also not very much money in the Union of Sout Africa. A two-roomed apartment in an ordinary Johannesburg subur can easily cost $900 a year. Rented houses are unobtainable below abou $1,000 per annum; the cost of living is generally high.

As a good tradesman, be he welder or toolmaker, can earn his $3,60 with ease, there is little incentive for young men to spend years in studying, earning nothing all the while, merely to become low-paid engineers

Largest engineering faculty in the country is at the University of th Witwatersrand in Johannesburg. Here, after four years of intensiv study mechanical, chemical, mining, electrical and metallurgical engineers are graduated. However, their B.Sc. degree, is not enough. T obtain a position in any industrial undertaking utilizing machinery capable of developing more than 300 horsepower, they must possess th Government Certificate of Competency. Similarly to quote the Sout Africa Factories, Machinery and Building Work Act: "Machinery operated by electricity where the horsepower of all the electrical appliance capable of working simultaneously is in excess of 1,000 H.P. must b supervised by a certificated engineer."

To become a certificated engineer one must possess workshop an practical experience—plenty of it too! For a university graduate t go back to the workshop at the age of 22 or 23 years is asking a grea deal. Yet, unless he does so what chance has he of obtaining the coveted certificate, far more important than his four years of academic training?

On the other hand, one does not need a university education to become a certificated engineer. Many a fitter, getting his engineering knowledge through correspondence courses, or by attending evening classes has become a full-fledged engineer, despite the fact that he lacks education in its fullest sense as well as essential academic training.

Membership of the Institution of Mechanical Engineers (Great Britain) is not recognized. Nor is membership in the American Society of Mechanical Engineers. One must have the Certificate.

At the moment it is estimated that there is a shortage of approximately 6,500 engineers in the Union of South Africa. Eight thousand are employed at present in all branches of engineering, but a number of these engineers leave from time to time for more lucrative employment. For instance, I noted recently in a reliable newspaper that a Rhodes scholar, who after studying engineering abroad, and qualifying, was offered a position in this country at the ridiculously low salary of $1,650 per annum. The organization that made this offer was employing bus drivers at a salary of approximately $1,800 a year. The Rhodes scholar, a qualified engineer, wound up running a small garage in the country.

An engineer from Europe came to South Africa on the strength of the alleged shortage of technical men said in an interview: "I have the equivalent of a Master of Science degree. I took a six year academic course and have 10 years experience in organizing a factory for the production of a highly competitive line. I can make no more than 900 pounds ($2,700) a year in South Africa."

Qualified engineers have said that with higher salaries to attract men who have deserted the field, the country could actually have a surplus of engineers now. As things are now a shortage of 9,300 qualified men is predicted in 1960.

Those engineers who are still employed as such are in many cases used wastefully. Many are no more than filing clerks, others again are employed as draftsmen. Others again are used for routine calculations and the writing out of reports in longhand.

Higher salaries than those I have quoted exist for senior posts. Senior Post Office engineers for example may earn up to 1,860 pounds ($5,580) while the Chief Engineer of the Department of Posts and Telegraphs earns 2,340 pounds per year, but even that is not very much when one considers the number of years spent till someone makes the grade.

To the North of the Union, in the young Central African Federation of the Rhodesias and Nyasaland the engineer position is very much the same.

Young people in this part of the world will not enter the field of engineering because they know it is underpaid. As qualified men have put it: There is no shortage of trained men—only a shortage of decent salaries to attract them.

Briefs From Here And There

Junior High Joins Taylor Crusade

Ernest A. Taylor is leading what has become a pretty sizable crusade, but which began as a one man campaign to save the Big Cypress (or Corkscrew Swamp) of Florida from desecration and destruction. Two articles in Professional Engineer came to the attention of a junior high school group in Warrington, Florida (suburb of Pensacola) studying forest conservation. The class secretary wrote Mr. Taylor asking what the school children of the state could do to insure preservation of this natural wonder. Mr. Taylor suggested that they write the governor of Florida of their interest in his project. Here is the story from The Pensacola Journal, May 13, 1955:

Students Ask Timber Preservation

Seventh grade students and teachers at Warrington Junior High School have taken an active part in a campaign to convert Corkscrew Swamp in Collier County into a state park.

Recently, a petition signed by 273 seventh-graders and teachér was sent to Gov. LeRoy Collins.

The petition stated as follows: "We the seventh-grade students of Warrington Junior High School are much interested in the forest of our state and especially in the virgin cypress of Big Corkscrew Swamp. We respectfully urge the governor to use his great influence to preserve one of the few remaining stands of virgin cypress and one of the great beauty spot of Florida."

The petition was accompanied by a letter written by Suzanne Sweeney, student

The governor answered the letter a follows: "Dear Suzanne; Thank you ver much for your letter of April 26, 195 in which you write for the seventh gra students at Warrington Junior Hig School in relation to Corkscrew Swam

"It is gratifying to me to know tha you students are taking such an interes in your state government, and I assure yo that I will give the matter of makin Corkscrew Swamp a state park my . . consideration. I will be happy to brin your interest in the matter to the attentio of the State Park Service."

President Goes East

President Patrick J. Lucey representin American Association of Engineers a the second of a series of meetings, on Apri 16th, 1955, celebrating the 75th anniversary of the founding of American Societ of Mechanical Engineers, held at Steven Institute of Technology, Hoboken, New York. He also delivered the official "greetings" of the American Association fo incorporation in a bound volume of suc messages from the major engineering societies. This is the text of A.A.E.'s salut to the A.S.M.E.

To the Officers, Directors and Members of the American Society of Mechanica Engineers:

The Officers and Directors of the Amer-
can Association of Engineers send Greet-
ngs on your Seventy-fifth birthday and
ongratulations on the magnificent work
hat you have done during these eventful
ears.

Without in the least disparaging the
alue of training given by engineering
chools or the impetus to progress that
niversity reasearch departments have
urnished, American Association of Engi-
eers contends that the graduates of these
nstitutions (and many engineers who were
nable to obtain college training) could
ot have kept abreast of rapid changes in
echnology without the "clearing house"
or information on these developments
rovided by American Society of Mechan-
cal Engineers through its meetings, its
ublications, and the fraternalism it has
urtured.

Founders of the Society were in league
ith Fate, as the very timeliness of its
irth demonstrates. Something more than
resight, something that might more fair-
be called prescience, moved these men
found the society while production
roblems in America's factories were rel-
tively simple, as yet uncomplicated by
e demands of totally new industries and
rge scale production, and before they
ere called upon to collaborate with civil,
ructural, electrical, mining, metallurgi-
al, and chemical engineers in using new
aterials and processes to produce for the
asses good things undreamed of in 1880.

Perhaps it was the cubit added to their
ofessional stature through membership
American Society of Mechanical Engi-
eers that enabled these men to plan, de-
gn, and execute mechanical miracles
hich have done much to alleviate pov-
ty, reduce drudgery, and widely distrib-
e the good things they have made. May
ur future years be bright, and your
complishments many.

pril 16, 1955

Patrick J. Lucey,
President.
M. E. McIver
National Secretary

R. D. Canfield Killed

The American Association of Engineers and especially Phoenix Chapter lost a valued member and the State of Arizona a fine engineer, when Robert D. Canfield was fatally injured in a head-on collision of two automobiles just north of Phoenix, a number of months ago.

According to the local press, Mr. Canfield was alone in his car on his way home from a state highway commission meeting in Prescott. A little north of the Deer Valley Store, seven miles north of Phoenix, witnesses told Highway Patrolman Pat McCollum, the left front tire of Canfield's car exploded. There was no evidence of excessive speed.

Mr. Canfield had been with the Highway department for 25 years, and was appointed to the department's top post last July, succeeding the late R. C. Perkins, also a member of A.A.E.

Because of the Association's excellent accidental death and dismemberment insurance, and since Mr. Canfield had carried the maximum amount over a period of years, his widow was sent a check for $2500 by the General Accident Fire and Life Assurance Corporation.

Personals

T. M. Vanderstempel is now City Traffic Engineer of Pontiac, Michigan. He was formerly associated with the Bureau of Street Traffic in Chicago.

Marc Burbridge, safety engineer, has an interesting new assignment in California where he is safety supervisor for Tri Dam Contractors in Tulumne County. A 7 mile tunnel is being constructed and Mr. Burbridge has responsibility for both accident prevention and fire protection. "I drive altogether," he writes "from 50 to 100 miles a day getting around, which I can reduce to one third when we get our main roads cut through the mountain and forest and when my house is built so that I can live near the project."

The next issue of Professional Engineer to follow soon will be devoted to Ethics
d the following number to a study of Unionism in the Engineering Profession.

Interesting Letters from Members

We invite our members to let us have their ideas, their suggestions, their constructive criticisms . . . that's the way we can build a better and more useful Society of Engineers.

An Executive Writes

In glancing back over my copy of CIVIL ENGINEERING for February, 1953 my eye caught a piece on page 63 entitled "Collective Bargaining for Professional Employees." While my personal situation is such that I have no selfish interest in the subject, I, nevertheless quickly scanned the article and came up with the impression that the American Society of Civil Engineers is claiming somewhat more accomplishment than it is entitled to claim. Referring to the activity of the American Society of Civil Engineers' Committee on Unionization and characterizing its work as a "Major Job of Pioneering," the following statement is made (Page 64): "No other engineering society seemed to have the desire or courage to take action concerning such a highly controversial matter."

I have not the time to research the point but I am under the impression that the AAE was the first engineering society to organize and give attention to the problems of professional employees under the Wagner Act. I have no desire to foster a controversy between the two engineering societies in which I hold membership, but if I am correct in my impression I think it might be appropriate for the President of AAE to call attention of the appropriate officer of ASCE to the unfair denial of credit for work done in this field by AAE.

Like this member we have no desire to foster a controversy, but we suggest that anyone who is interested follow Al Smith's favorite injunction, "Let's look at t
record." PROFESSIONAL ENGINEER report
on the Wagner Act (and its inter-relati
with the Fair Labor Standards Act) co
ering all major cases involving engine
from the time the Act became effect
and collected and organized this data
a book called "Technologists' Stake
the Wagner Act" in 1944—a handbo
or manual to aid engineers in defend
their real freedom of association by sho
ing them how to avoid inclusion in hete
genous bargaining units. No other soci
offered comparably definite and co
prehensive information until the E
booklet was published and it appeared j
as the Wagner Act was practically
written in the Taft-Hartley Act. TEC
NOLOGISTS' STAKE IN THE WAGNER A
was a big factor in the changes favora
to profesional employees which were
corporated in the Taft-Hartley Act.

Although there are many people w
are moved to write a letter to the edit
disapproving published material, there a
just as many who have the impulse
write a favorable comment on mater
that arouses admiration. The reason th
more kicks than pats on the head are a
ministered is that stimulating the adrena
gland arouses a more dynamic respon
in the form of anger than does appeal
the heart or the relatively dispassiona
judgment of the human brain. One ca
forth an almost instantaneous reacti
the other a calm, deliberate judgment, a
procrastination explains the ultimate
anition of those who have a mild impu

write and praise an editor. This is why ı editor especially enjoys the "well done, ɔod and faithful servant" sentiment ex- 'essed in a letter from Mr. Robert H. lace (who used to be unstinting in his aise when he lived in Chicago and was frequent visitor at headquarters). Mr. ace, now in Washington, D.C., writes:

For literally years on end it has been my intention to write you to tell you how highly we esteem and appreciate the dedicated service you are rendering our profession as reflected in the high standard of editing and readableness of PROFESSIONAL ENGINEER — and elsewhere as well. It is certainly unique of its kind, and altho small in compass it carries a potent, and God only knows ıow needed, message. Its counterpart does not exist in any other organization ɔf the engineering fraternity in the U.S.A. or Europe.

Fraternalism Is Important

Incorporated in a letter to headquarters m Erle K. Ramsey of Oklahoma, who ved as national president during the ·ly thirties, was a paragraph which will ike a responsive chord in the hearts many older members of A.A.E. For ıld lang syne" that paragraph is here roduced:

our "Fraternalism—the Foundation" been read, and reread, with great in- est. You have made these departed ones again in our hearts, and you have put finger, I think, on the one thing that of early days carry in our hearts. There ndeed a fraternalism—it grew and be- ıe a part of us as we worked for 1.E. and through it strove to make our fession a better one for our sons. I ıt to thank you for so beautifully ting it before us.

Handy Gadget:

f you like useful gadgets, you'll like ıs Adjustable Telehold. It fits all ınes—snaps on in a jiffy; is light- ght, comfortable, fully adjustable to shoulder widths and slopes. Both ds are free which enables you to te while you talk. Rans Manufactur- Co., New York.

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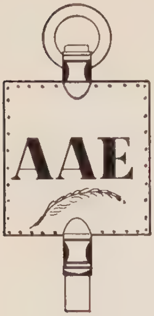

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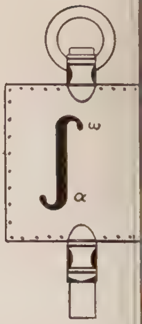

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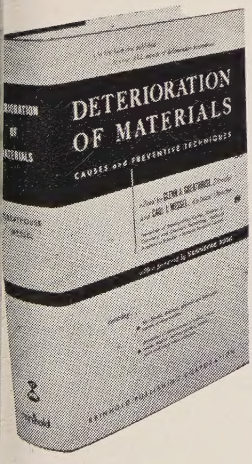

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